Technical Assistance — Fulton County

Metal Fume Odor
January 18, 2007

In late October 2007, a business owner in Atlanta, Fulton County contacted the Georgia Environmental Protection Division (GEPD) regarding an unpleasant fume odor in his neighborhood. He, along with his employees, complained of noxious odors emanating from a nearby metal plating company – Metalplate Galvanizing LP. GEPD conducted a field exam in which no citations were issued, and referred him to the Georgia Division of Public Health (GDPH). GDPH staff contacted the business owner via telephone in October to obtain additional information regarding his health concerns. During this conversation, he also stated that he was going to take a digital photograph of visible fumes and send GDPH an independent environmental report. To date, we have not received a photograph or a report.

The resident, who is the owner of a sign shop in an industrial area of Fulton County, documented his health symptoms, his staff's, and of others in the area downwind of the metal plate company. They cite sore throats, respiratory, and flu-like symptoms similar to individuals with 'metal fume fever'. In response, GDPH reviewed environmental data concerning the company, Metalplate Galvanizing LP, to investigate and respond to the resident's health concerns.

Metalplate Galvanizing LP is located in northwest Atlanta in Fulton County, near Fulton Industrial Blvd. and the Cobb County border. This area (30336) is mostly a commercial /light industrial zone with several small quantity generators. Approximately 238 residents live in the immediate area, but within a one mile buffer area, the estimated population is 1,996. Top industries in this neighborhood are business administration, waste management, industrial machinery, equipment merchant wholesalers, and construction.

GDPH reviewed the Environmental Protection Division's (EPD) 2007 Hazardous Site Inventory (HSI) to determine if the site is listed. It is listed as a Class II site, which means it is undergoing evaluation to determine if further corrective action is needed. In addition, the HSI details that Metalplate Galvanizing LP has a known release of lead in soils at levels exceeding reportable quantity, and known zinc releases. There are no major compliance violations for this site and it is considered a small emissions source according to GEPD.

GDPH also reviewed the U.S. Environmental Protection Agency's Toxic Release Inventory data (www.tri.gov) and Enforcement and Compliance History Online (ECHO) (www.epa-echo.gov). The Toxics Release Inventory (TRI) is a publicly available EPA database that contains information on toxic chemical releases and other waste management activities reported annually by certain permitted industry groups as well as federal facilities. Metalplate Galvanizing LP was listed on TRI with the most recent total point source air emissions of 4,943 pounds with 3,350 pounds of surface water discharge. The majority of these releases were from zinc and the total on-site release from all chemicals was 8,293 pounds. ECHO is a site that provides information about compliance inspections, violations, and enforcement actions against companies for violating regulatory standards. In 2003, ECHO listed two formal enforcement and compliance issue violations for the site. One violation involved not having a permit for some hazardous waste activities and the other involved the non-treatment of hazardous waste sludge. Both issues have since been resolved and no further violations or compliance issues are recorded to date.

The Agency for Toxic Substances and Disease Registry's (ATSDR) Toxicological Profile for Zinc indicates that zinc is a common element in the environment. Generally speaking, levels of zinc in air are relatively low and fairly constant. Zinc can enter the lungs via inhalation, but the most likely exposure route for zinc near hazardous waste sites is through drinking contaminated water. Normally, zinc leaves the body in urine and feces. Inhaling large amounts of zinc can cause a specific short-term disease called metal fume fever. Metal fume fever is usually characterized by chest pain, cough, reduced lung volumes, dyspnea, nausea, chills, malaise and leukocytosis. This disease is generally reversible once exposure to zinc ceases, but very little is known about the long-term effects of breathing zinc dust or fumes. EPA currently classifies zinc and its compounds as carcinogenicity group D (not classifiable as to human carcinogenicity).

On October 29 and November 6, 2007, GDPH contacted EPD to obtain more information about the site.
On November 14, 2007, GDPH mailed to the resident a letter with two fact sheets, *Zinc* and *Metal Fume Fever*, from the Agency for Toxic Substances and Disease Registry and the American Welding Society. These fact sheets provided educational information regarding some of the possible health effects that result from exposure to metal fumes. On December 20, 2007, GDPH mailed to the resident a final letter detailing the results of the environmental investigation. From the environmental investigation, results do not indicate that air emissions from the facility are a pathway that may lead to adverse health effects. To date, GDPH has not received any further communication from the concerned individual.

Conclusions
Under the current facility operation, it is unlikely that air emissions from the facility are a pathway that may lead to adverse health effects. The site is considered a small point source emitter and is under federal and state regulation with data reported for their releases. Although there are known releases of lead in soils at levels exceeding reportable quantity, the complaint was regarding odor due to air emissions. With adherence to the conditions stipulated by their permit, it is unlikely that future air emissions will lead to adverse health effects to people in the area.